UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/751,653	12/30/2000	Ali N. Saleh	M-7165-6C US	8875

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EXAMINER
NGUYEN, HANH N

ART UNIT	PAPER NUMBER
2662	12

DATE MAILED: 01/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/751,653	SALEH ET AL.
	Examiner	Art Unit
	Hanh Nguyen	2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *Response filed on 11/24/03* .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 146-167* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 146-167* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *10* .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

Allowable Subject Matter

The indicated allowability of claims 155 and 166 are withdrawn in view of the newly

discovered reference(s) to Blackard et al. (US Pat. No. 5,918,020). Rejections based on the

newly cited reference(s) follow.

Drawings

According to the specification, page 9, line 6, the description in block 260 of Fig.2

should be changed to "Intitiate link mode restoration".

Claim Objections

Claims 1, 156 and 167 are objected to because of the following informalities:

It is not clearly defined by stating "a port failure of a first port". Appropriate correction

is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 147, 148, 149, 156, 158, 159, 160 and 167 are rejected under 35 U.S.C. 103(a)

as being unpatentable over **Morales** (US Pat. No. 5,987,526) in view of **Sato et al.** (US Pat. No.

5,513,345).

In claims 1, 156 and 167, **Morales** discloses, in Fig.1, a failed port 112 coupled to a

PVC 114 is detected (detecting of a port failure). A port 113 is selected as an alternate port

(identifying a second port as one alternate port) which is coupled to PVC 115. Packets previously

sent from port 111 to port 112 via PVC 114 are now sent to port 113 via PVC 115 (restore

virtual path via PVC 115 to the second port). See col.5, lines 20-30. The network 110 can be

used in an Optical network because interface 131 is complied with DS3/OC3 standard (Optical

network). See col.5, lines 1-5. It is well-known in the art to understand that PVCs 114, 115 are

within a transmission link connecting ports 111 and 112, 113 of network 110; wherein port 111

belongs to a node (a first node) and ports 112, 113 belong to another node (a second node).

Morales does not disclose transferring a restoration message packet between the first node and

the second node. **Sato et al.** discloses a network node detecting a failure in a node/ link, sends a

restoration message to another node searching for alternate routes (transfering a restoration

message between a first node and a second node). See col.34, lines 10-25 & Fig.2 & Fig.10 &

Fig.31. Therefore; it would have been obvious to one ordinary skill in the art to apply the

restoration message of **Sato et al. in Morales** for sending a restoration message from one node

to another when a port failure is detcted. The motivation is to search for an alternate port and

restore the virtual path linking the two nodes together.

In claims 147, 148, 149, 158, 159 and 160, **Morales** discloses the time to restore the

virtual path is 10 milliseconds (less than 2 second), between 50 milliseconds (50 milliseconds)

and 250 milliseconds . See col.4, lines 15-30.

Claims 146, 150-154, 157 and 161-165 are rejected under 35 U.S.C. 103(a) as being

unpatentable over **Morales** (US Pat. No. 5,987,526) in view of **Sato et al.** (US Pat. No.

5,513,345), and further in view of **Bentall et al.** (US Pat. No. 6,282,170 B1).

In claims 146 and 157, **Morales** discloses substantially limitations in claim 1, but

updating information in a node database. **Bentall et al.** discloses, in Fig.7, database 74 that keep

tracks of established virtual paths (updating information in a node database). See col.7, lines 5-

10. Database 74 is within a node 70 (see Fig.5). Therefore, it would have been obvious to modify

the **Morales** by adding database 74 of **Bentall et al.** so that all the available VPIs are updated

and retrieved for backup in case of a port fails.

In claims 150 and 161, **Morales** does not disclose broadcasting resource request packets

to nodes to determine an alternate route with necessary resources that support the virtual path.

Bentall et al. discloses a SONET network network(see col.6, lines 35-38), in Fig.3, when a route

has failed, spare capacity on each of alternate route is determined by sending messages along

alternate routes via intermediate nodes (broadcasting resource request packets to nodes). One or

more of alternate routes is selected, ascertained and allocated the spare capacity (identifying an

alternate physical path comprising nodes with necessary resources to support the virtual path).

Once the alternate route has been selected, network communication is presumed using the

selected alternate route (configuring alternate physical path by establishing communication).

See col.5, line 50 to col.6, line 5. Therefore, it would have been obvious to one ordinary skill in the art to apply the feature of determining capacities of all alternate routes of **Bentall et al.** in the network 110 of **Morales** to determine the least cost alternate routes with enough capacity for restoring virtual path between two nodes.

In claims 151 and 162, **Morales** discloses awaiting period of time before the rerouting is finished (waiting for a response to the path restoration request). See col.4, lines 1-5. **Bentall et al.** discloses when a route has failed, a chooser node 64 (see Fig.2) in the vicinity of the failed route is selected (identifying adjacent nodes). Spare capacity on each of alternate routes is determined by sending messages along alternate routes (Forwarding a path resource request packets to nodes). See col.5, lines 50-67. **Morales** does not disclose changing the state of virtual path to restoring. Therefore, it would have been obvious to combine the **Bentall et al.** with **Morales** in order to come up with the claimed limitations.

In claims 152 and 163, the limitations of these claims have been addressed in claims 147, 148 and 149.

In claims 153 and 164, **Morales** does not disclose the response to the restoration request is not received within the second predetermined time interval. **Bentall et al.** discloses, in Fig.8, when a link has failed, a node at either side will raise an alarm (generating a network alarm) and commence restoration. See col.7, lines 20-35. A request is sent to alternate routes to determine the alternate routes with enough resources for restoring the virtual path. See Fig.3& 4. An alternate route has been determined to restore the virtual path (see col.5, lines 55-60). Therefore, it would have been obvious to one ordinary skill in the art to modify the alarm of **Bentall et al.**

to be activated after a second predetermined time interval as desired so that a link congestion is not happened.

In claims 154 and 165, the limitations of these claims have been addressed in claim 1.

Claims 155 and 166 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Morales** (US Pat. No. 5,987,526) in view of **Sato et al.** (US Pat. No. 5,513,345), in view of **Bentall et al.** (US Pat. No. 6,282,170 B1), and further in view of **Blackard et al.** (US Pat. No. 5,918,020).

In claims 155 and 166, Morales does not disclose the first and the second time intervals are dynamically calculated by the optical network based on a network traffic condition. **Blackard et al.** discloses a client 108 (a first node) receives messages from a server 102 via a link 110 (a second node). When the buffer (traffic condition) of the client is over a predetermined threshold level (the first node is failed), the server has to wait a time period wherein the time period is dynamically calculated based on the buffer status in the client (time intervals are dynamically calculated based on a network traffic condition). See col.5, line 40 to col.6, line 14. Therefore, it would have been obvious to one ordinary skill in the art to implement the feature of time period dynamically calculated based on a network traffic condition into the Morales.

Response to Arguments

Applicant's arguments with respect to claims 1 and 146-167 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

Venkatesan (US Pat. No. 5,999,286) discloses Method and System for Restoring a

Distributed Telecomunications Network.

Croslin et al. (US Pat. No. 6,347,074 B1) discloses Centralized Method and System for

Excluding Components from a Restoral Route in a Communications Network.

Sato et al. (US Pat. No. 5,781,528) discloses Path Switching System and Method.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Hanh Nguyen whose telephone number is 703 306-5445. The

examiner can normally be reached on Monday-Friday 8:30 AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hassan Kizou can be reached on 703 306-4744. The fax phone numbers for the

organization where this application or proceeding is assigned are 703 305-3988 for regular

communications and 703 308-9051 for After Final communications.

Fax number: 703 872-9314

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is 703 305-4700.

Hanh Nguyen

January 12, 2004